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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,981	02/11/2002	Tetsuto Kageyama	03500.016182	4613

5514 7590 10/14/2004

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EXAMINER

NGUYEN, LAM S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 10/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/068,981	Applicant(s) KAGEYAMA, TETSUTO	
	Examiner LAM S NGUYEN	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 9-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims are amended to define that the controller controls the ink discharge in accordance to “the temperature of ink in said ink supply ink tube”. In contract, the specification discloses “control means controls the repetitive recording scanning frequency by the carriage in accordance with the temperature of the ink supplied from the ink tank to the ink supply tube”. Moreover, in FIG. 1, the temperature sensor 13 senses the temperature of ink in the ink tank 11 not in the ink supply tube 10, and there is no any means to sense the temperature of ink in the ink tube 10 shown in the figures. Therefore, claims 9-10 contain the new subject matter which was not described in the specification at the time the application was filed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (US 4544931) in view of Fischbeck (US 4864328) and Ishima (US 4459469).

Watanabe et al. disclose a recording control method for an ink jet recording apparatus comprising:

a recording head (*FIG. 1, element 101*) for recording data on a recording medium (*FIG. 1, element 102*) by discharging ink from a plurality of discharge ports (*FIG. 3A, element 6*),

a carriage (*FIG. 1, element 110*) having the recording head mounted thereon for reciprocally scanning the surface of said recording medium (*FIG. 1: The carriage moves backward A and forward B*),

recording medium carrying means (*FIG. 1, element 104*) for carrying said recording medium by a predetermined distance in the direction perpendicular to the scanning direction of said carriage each time said carriage reciprocally scans the surface of said recording medium (*FIG. 1: The printing medium 102 moves in the C direction*),

an ink storage tank (*column 6, lines 5-10: The main ink tank*) and a supply tube (*column 6, lines 5-1 and FIG. 3A, element 9*) for supplying ink from the ink storage tank to the recording head, and

control means for controlling ink discharge states of said recording head in accordance with an image signal input from a host computer, comprising a step of lowering the scanning speed of said carriage when the temperature of the ink is lower than a reference temperature (*column 9, lines 35-50 and column 12, lines 39-42: Control means is arranged so as to reduce the traveling speed of said head by said traveling means in association with a decrease*

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in said ambient temperature lower than T_n) (Referring to claim 9), or a step of increasing a non-recording time during which no ink is discharged from said recording head when the temperature is lower than a reference temperature (column 11, line 42 to column 12, lines 39-42: reducing the traveling speed of said recording means implies increasing a non-recording time of said recording means) (Referring to claim 10).

Watanabe et al. silent wherein the ink storage tank is placed in a position off said carriage where reciprocal scanning by said carriage and carrying of said recording medium by said recording medium carrying means are not affected by the ink storage tank.

Fischbeck discloses an ink jet printer having an ink jet head mounted on a carriage for reciprocal scanning motion in a direction across the width of the recording medium 10 supported on the platen 13 (*FIG. 1, element INK JET HEAD and column 2, lines 44-47*), wherein the ink jet head is provided with ink from an ink reservoir (*FIG. 1, element 23*) through an ink supply tube (*FIG. 1, element 24*). The ink reservoir is placed off the carriage where reciprocal scanning by the carriage and carrying of the recording medium 10 by the platen are not affected by the ink storage reservoir 23 (*FIG. 1*).

Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to place the main ink tank disclosed by Watanabe et al. off the carriage as disclosed by Fischbeck. The motivation of doing so is that because the main ink tank stores a large capacity of ink, it is too weight for the carriage to carry during reciprocal scanning motion as a knowledge common well known in the art.

In addition, Watanabe et al. do not teach that said control means controls ink discharge states of said recording head in accordance to the temperature of ink in the ink supply tube.

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Ishima discloses an ink jet apparatus having an ink jet head (*FIG. 8, element 70*) supplied ink from an ink reservoir through an ink supply tube (*FIG. 8, elements 78, 78' and column 1, lines 11-15*), wherein a controller controls the size of ink droplets in accordance to the temperature of ink in the ink tube sensed by the temperature sensors 80 and 84 (*column 1, lines 15-20 and FIG. 8*).

Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the method disclosed by Watanabe et al. such as sensing the ink temperature in the ink supply tube instead of the ambient temperature as disclosed by Ishima. The motivation of doing so is to provide a controller in an ink jet apparatus which maintains the temperature of ink fed to the printhead at a constant level to thereby ensure a constant quality of data reproduction on a recording medium as taught by Ishima (*column 4, lines 40-46*).

Response to Arguments

Applicant's arguments with respect to claims 9-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S NGUYEN whose telephone number is (571)272-2151. The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D MEIER can be reached on (571)272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LN
October 9, 2004


Stephen D. Meier
Primary Examiner